Inclusion versus Self-Contained Special Education for Teenage Students with Autism

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Abstract

This mixed-methodology study investigates the effectiveness of inclusive versus self-contained educational models for teenage students with autism spectrum disorder (ASD), taking perspectives from both neurotypical students and educators. While full inclusion is often posed as the most effective model for social skill development, this research argues for a blended approach. Data from student and teacher surveys reveal varying levels of autism awareness among students, but generally positive attitudes towards neurodivergent peers. Additionally, we identified a significant gap in specialized training for teachers educating students with ASD. Both student and teacher perspectives, particularly the unanimous agreement among educators, strongly advocate for a hybrid model that combines inclusive environments with targeted, self-contained support. Due to autism being a spectrum, this flexible approach allows for individualized instruction while mitigating social isolation. The study suggests that a "blended" model offers the most effective strategy for boosting both academic and social success for teenage students with ASD, recognizing the need for both social integration and specialized support. However, further research is needed to develop practical implementation strategies for this blended model.

Introduction

The controversy over the most effective educational model for students with autism spectrum disorder (ASD) has been going on for decades. With more and more schools pushing for inclusive education, which integrates students with disabilities into general education classrooms, many are questioning whether this approach truly benefits students with ASD. On the other hand, self-contained special education programs, which provide more focused support

in separate classrooms, are generally seen as better suited to meet the students' needs. More research is needed to understand their potential advantages and disadvantages to ultimately decide the more effective method of instruction. Our research question is, "Which educational model is more effective for teenage students with autism spectrum disorder?" This will be a mixed-methodology study on the benefits and drawbacks of both inclusion and self-contained special education, and which method is more successful.

Although full-fledged inclusion is widely believed to be the most effective educational model, this paper suggests that a mix of both inclusive and self-contained classrooms would be the best solution due to avoiding the social challenges and isolation self-contained students face and providing the small-group support these students need. Such an approach might involve classrooms integrated with students with ASD, but those students are pulled out of their classes for self-contained learning time. This way, autistic students aren't completely isolated from their neurotypical peers, but they also get the small-group support they need. Depending how high on the spectrum the students are, it will determine the amount of time spent in self-contained classrooms versus inclusive environments.

Proponents of inclusion believe that autistic students deserve to be educated in a less restrictive environment, with the same learning opportunities as typical learners. However, very few general education teachers are fully equipped to provide the support neurodivergent students need (Harper, 2019). On the other hand, self-contained classrooms may reinforce stigma against neurodivergence. Although autistic students need to learn how to cope with their peers in preparation for adulthood, they should also get the extra help they need. Therefore, a mix of inclusion and self-contained classes would be the best compromise to benefit our students.

Literature Review

Previously conducted research on the best education method for students with ASD has provided mixed results, but most studies are leaning towards inclusion (Lohman, 2011); (Murphy, 2021). This is particularly because attitudes toward neurodiversity have evolved in recent years. My study aims to either confirm or disprove the notion that inclusion is the more effective educational model. However, most of the existing research in this area was conducted over a decade ago. We need to take into account that autism rates have been rapidly escalating. Studies have found that the United States' rates of children with ASD has increased from 1 in 41 individuals in 2021 to 1 in 31 this year (CDC, 2025). With more kids getting diagnosed with ASD, autistic students are making up a considerably larger portion of school populations. It's also important to note that there is a rapidly growing diversity of neurodivergent students. Furthermore, there has been little to no research about post-pandemic special education methodologies. This is crucial because we must factor in the prevalence of reliance on digital learning tools in the aftermath of the pandemic. My study will take both these considerations into account.

Methodology

This will be an explanatory mixed-methodology study, utilizing surveys with both qualitative and quantitative questions. This research focuses on students from various school districts nationwide to capture a broad range of perspectives on neurodivergent education. Teachers will also be a main focus due to their professional expertise. Surveys will be conducted in order to gain multiple perspectives on neurodivergent education.

Quantitative data from the surveys will be analyzed using descriptive statistics to summarize participant demographics, reported experiences, and perceptions. Qualitative data, gathered through open-ended survey questions, will be analyzed thematically to identify recurring patterns, sentiments, and experiences regarding educational models for students with ASD. The "effectiveness" of an educational model will be primarily measured through participants' perceptions and reported experiences across several key areas: academic support, social integration, emotional well-being, and preparedness for future success. Student responses will show feelings of inclusion, social comfort, and perceived academic support. Teacher responses will provide insights into their preparedness, the challenges and benefits of different models, and their overall assessment of student progress in various environments.

To ensure ethical conduct, participants' identities will remain confidential, with all data anonymized during analysis and reporting. The teachers' surveys will focus on their approaches to teaching autistic students, the strategies they use, and their perspectives on the effectiveness of existing accommodations. Meanwhile, student surveys and interviews will explore the awareness and perceptions of their neurodivergent peers. By gathering data from multiple perspectives, this research should point us in the direction of the most efficient education method.

Results

Student Surveys

A total of 21 students were surveyed, with ages varying from 13 - 17. They were asked both qualitative and quantitative questions about ASD.

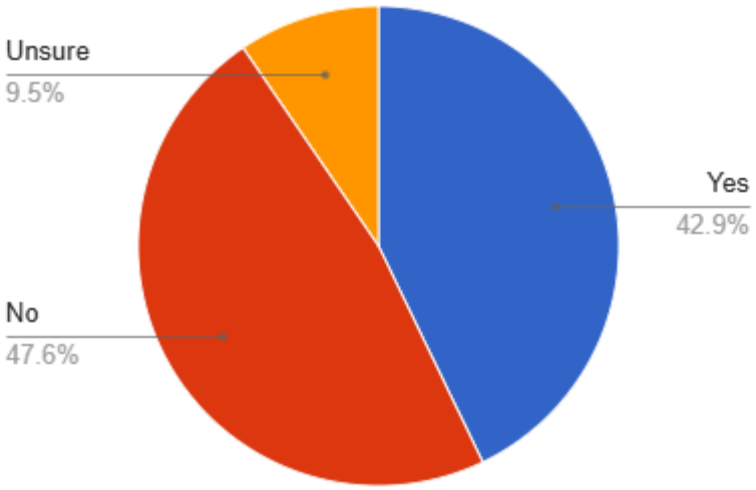
When the students were asked about their awareness of ASD, there was a varying range of responses, with the majority displaying a moderate understanding of autism. Most students

mentioned the challenges that come with autism, including having difficulty with communication, behavior, concentration, social interaction, and learning. They also mentioned autism's wide spectrum and the current stigma against neurodivergence. Additionally, when they were asked about what challenges autistic students might face in school, they mentioned teasing, bullying, exclusion, difficulty concentrating, loneliness, discrimination, anxiety, and high sensory sensitivity. One student responded, "[Autistic students] might struggle to interpret social cues, build friendships, or feel included, while sensory sensitivities to bright lights, loud noises, or crowded spaces can make the school environment overwhelming. Communication difficulties…can further complicate interactions…Executive functioning issues, like organizing tasks, managing time, or following multi-step instructions, can hinder academic performance, and abstract concepts in subjects like math or literature may present further difficulties." Another student acknowledged, "Some students with autism might need additional help absorbing the materials…whereas others might need assistance socially."

However, out of the 21 students, only 9 (42.9%) reported learning about autism in school, while 10 (47.6%) had not received any autism education. (See Figure 1)

Figure 1

Number of Students Who Received Autism Education

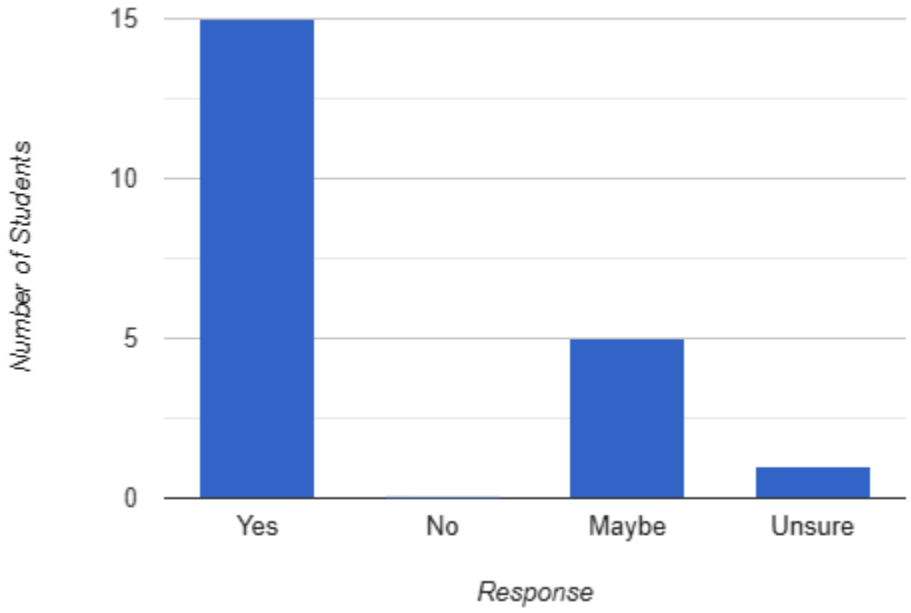


Meanwhile, a majority of respondents (76.2%) reported having interacted with autistic students, while 14.3% reported no interaction, and 9.5% were unsure. Accordingly, 10 students already had neurodivergent friends, while 6 did not, and 5 were unsure.

However, when the students were asked if they would befriend someone knowing that they're autistic, 15 students (71.4%) responded positively, while 5 (23.8%) reported *Maybe* and only 1 student was unsure. Not a single student responded negatively. (See Figure 2).

Figure 2

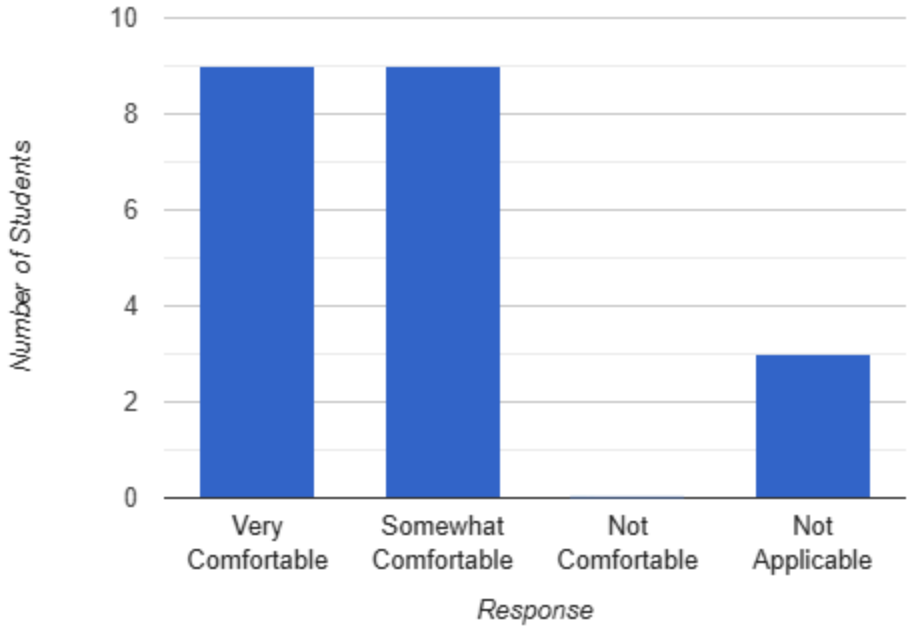
Students' Likeliness to Befriend an Autistic Peer



This trend holds the same when students were asked about their comfortability interacting with neurodivergent individuals: 18 students (85.7%) responded positively, while 3 (14.3%) were unsure. Not a single student said they would not be comfortable. (See Figure 3)

Figure 3

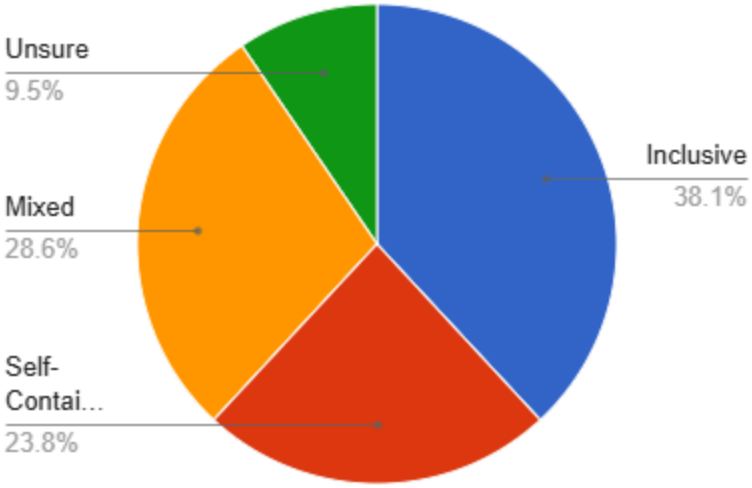
Comfortability of Students Interacting with Neurodivergent Individuals



Furthermore, when students were asked if they thought students with autism should be in an inclusive environment, 8 students reported *Yes*, while only 5 students responded self-contained, and 6 opted for a mix of both approaches. (See Figure 4) One student answered, "[Autistic students] may struggle to keep up, and teaching methods are often geared towards those without learning disabilities." However, another student responded, "Inclusive classrooms promote diversity and foster social interaction, helping students with autism develop communication and collaboration skills in real-world settings. Such environments also encourage mutual understanding and empathy among all students, breaking down stereotypes and building a more inclusive community. However, it is essential to tailor support systems to meet the unique needs of students with autism, ensuring they have access to resources like specialized instruction, sensory accommodations, and individualized attention when necessary."

Figure 4

Best Learning Model for Autistic Students, According to Neurotypical Students



Teacher Surveys

A total of 6 teachers were surveyed, with grades taught varying from seventh to eighth. All teachers were based in the Evergreen School District. They were asked both qualitative and quantitative questions about ASD education.

The teachers surveyed vary in years of experience, ranging from 4 to 20 years. (See Figure 5)

Figure 5

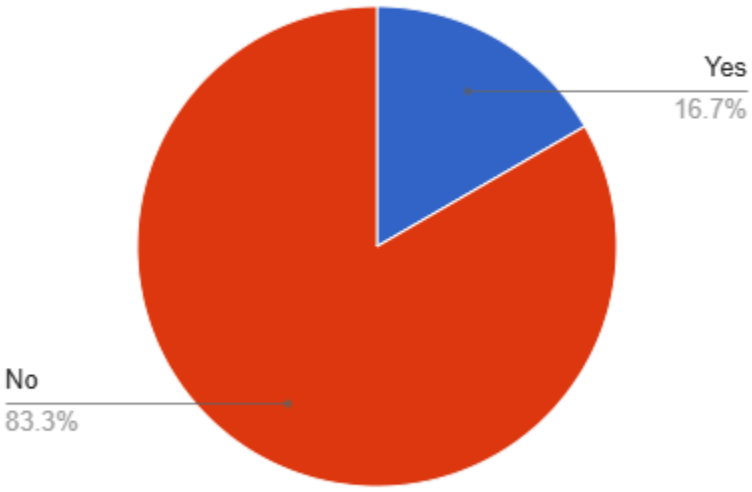
Years of Experience Teaching

When asked if they had ever taught neurodivergent students before, 4 (66.7%) responded *Yes*, while only 1 responded *No* and 1 was unsure.

Additionally, when asked if they were previously given specific training for educating students with ASD, only 1 teacher responded *Yes*, while 5 responded *No*. (See Figure 6)

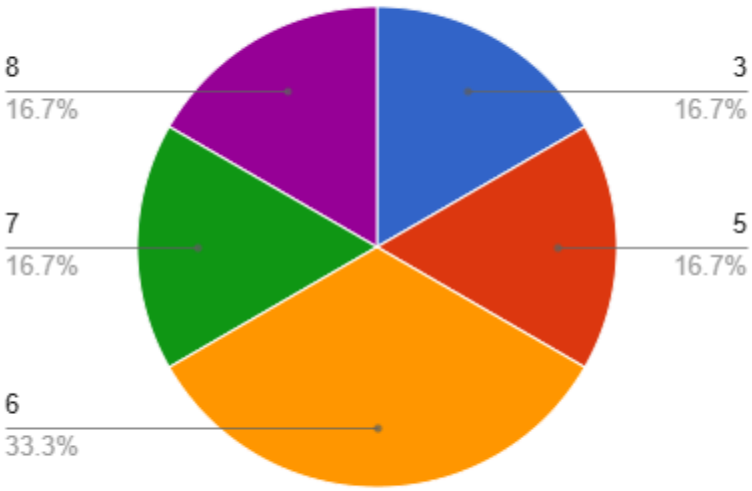
Figure 6

ASD Education Training



Moreover, when asked to rank their preparedness for teaching students with autism on a scale of 1 to 10, with 1 being *Not Prepared At All*, and 10 being *Extremely Prepared*, the average response was approximately 5.83, while the responses ranged from 3 to 8. (See Figure 7)

Teachers' Preparedness for Teaching Autistic Students:



In addition, most teachers suggested that more funding for special education aides and more training for general education teachers would be beneficial to improve ASD education.

The surveyed teachers additionally recognized the benefits and challenges involved with each learning model. When it came to self-contained learning, most teachers mentioned the benefits being individualized instruction and extra support, while the drawbacks were potential isolation and lack of exposure for working with their general education peers. Meanwhile, for inclusive learning models, teachers reported that socialization, being challenged more, and getting exposure to working with their neurotypical peers were the main benefits, while the disadvantages were possible social ostracism and not getting the support they may need.

However, all of the teachers who were surveyed reported that they didn't notice any bias against neurodivergence in their classes.

When teachers were asked to provide what they thought was the best educational model for students with ASD, all of them chose a mix of both self-contained learning and inclusive learning, suggesting a blend between the two.

Discussion

This study aimed to investigate the effectiveness of inclusive versus self-contained educational models for teenage students with ASD through the perspectives of both neurotypical students and teachers.

The student survey results indicate a moderate level of awareness regarding ASD, with many students demonstrating an understanding of the challenges associated with autism, including communication difficulties, social interaction challenges, and sensory sensitivities. These qualitative responses highlighted a perceptive understanding of the potential struggles autistic students faced in school. This suggests that despite formal education on autism spectrum disorder being limited for a significant portion of the students (only 42.9% reported learning about ASD in school), a considerable number have developed their own understanding, likely through interactions with neurodivergent individuals, as 76.2% reported having interacted with autistic peers. This informal learning demonstrates the impact of direct experience in shaping attitudes and understanding.

Furthermore, the student survey data additionally demonstrates positive attitudes towards befriending and interacting with autistic peers. A strong majority (71.4%) expressed a willingness to befriend an autistic peer, and an even higher percentage (85.7%) reported comfort

while interacting with neurodivergent students. There were no negative responses in these aspects. This suggests a general openness and acceptance among neurotypical students, which is crucial for successful inclusive environments.

However, student opinions on the most efficient model for autistic students were more varied, with a relatively even split between favoring inclusive, self-contained, and a mixed approach. This suggests that students recognize the complexities involved and the varied needs of their autistic peers.

The teacher survey results provide another perspective. A majority of teachers (66.7%) reported having taught autistic students, indicating a common experience with the students. However, a significant gap exists in specialized training for educating students with ASD, with only 1 out of 6 teachers having received such training. The lack of formal preparation can be seen in the average preparedness score of 5.83, suggesting that while teachers aren't entirely unprepared, there is plenty of room for improvement in their professional development. This aligns with the suggestions for increased funding for special education aides and more training for general education teachers.

It's important to note that all surveyed teachers advocated for a blended learning model, combining elements of both self-contained and inclusive environments. Their qualitative responses on the benefits and challenges of each model demonstrate an intermediate understanding of both. They recognize the individualized instruction and support offered by self-contained settings, while also acknowledging the risks of isolation. Conversely, they value the socialization and exposure of inclusive models but are also aware of potential social ostracism and inadequate support. This agreement among educators, who possess direct

experience in the classroom setting, strongly suggests that a flexible approach that takes strengths of both models would be the most effective for teenage students with ASD.

The unanimous reporting of no observed bias against neurodivergence in classroom settings further supports the idea that general education environments are generally accepting, making a blended approach more realistic.

Evidently, both teachers and students advocate for a hybrid approach that leverages benefits of both inclusive and self-contained settings. Since teachers aren't specifically educated on how to instruct autistic students, and self-contained environments lack real-world exposure, a one-size-fits-all method will likely be ineffective, especially because autism is a spectrum and everyone requires a different amount of help. These findings suggest that the most effective educational model for autistic students would be one that integrates general education settings while also having specialized, intensive instruction in smaller, more individualized environments when necessary.

Implementing a blended model would require careful planning and resource distribution. Schools would need to invest in teacher training, specialized support staff, individualized education programs (IEPs), curriculum adaptation, and peer education. Despite the clear benefits, the blended approach also presents several challenges, including a lack of funding, an increased workload for teachers, and potential stigma.

This study itself has several limitations. The sample size, particularly for teachers, is small, and geographically limited to one school district, which may not be representative of national trends. While the student sample provides valuable insights as well, it is also relatively small. Furthermore, the study did not directly assess the academic or social outcomes of students with AS; it instead focused on the perceptions of neurotypical peers and educators. Future

research should address these limitations by conducting larger scale studies, developing and evaluating blended model prototypes in schools, and exploring the perspectives of autistic students themselves.

Conclusion

Determining the most effective education model for students with ASD is critical to their academic and social success. While inclusive education offers exposure to a diverse learning environment, self-contained special education programs provide targeted support for students with ASD. A blended approach -- combining elements of both inclusion and self-contained classes -- may be the most effective strategy for meeting the varied needs of these students. The higher students fall on the spectrum, the more self-contained support they might need. This would allow for flexible, individualized support based on each student's level of need, because autism is a spectrum. The next steps for educators and policy makers would be to attempt to integrate this "blended" model in their special education classes. Ultimately, we need to provide an educational environment where every child, regardless of where they fall on the spectrum, has the opportunity to thrive.

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Appendix

All surveys will be online.

Survey for neurotypical students:

Description: You are invited to participate in a research study examining the most effective educational model for students with autism spectrum disorder (ASD.) It is unlikely that you will experience any risks or discomforts beyond what would be experienced in everyday life by participating. There are no specific benefits associated with participating. The data collected in this study are completely anonymous. No personally identifiable information will be collected and the information you choose to provide in this study cannot be connected back to you. Results from this study may be published, and the anonymous data may be shared with other researchers. If you have any questions or comments about this study, please contact autismeducationresearch@gmail.com.

1. I certify that if I am under 18, I have a parent/guardian's permission to take this survey. By clicking the "Next" button to enter the survey, I indicate my willingness to voluntarily take part in this study.

[NEXT PAGE]

2. Age: (Short Answer)
3. Grade: (Short Answer)

4. School District (Short Answer)
5. City/Country (Short Answer)

[NEXT PAGE]

6. What do you know about autism spectrum disorder? (Short Response)
7. Have you learned about autism in school? (Yes/No/I'm not sure)
8. Do you know anyone with autism? (Yes/No/I'm not sure)
9. Are you friends with anyone who is autistic? (Yes/No/I'm not sure)
10. Would you become friends with someone if you knew they had autism? (Yes/No/Maybe/I'm not sure)
11. What challenges do you think students with autism might face in school? (Short Response)
12. Do you think students with autism should be in the same class as students without learning disabilities? Why? (Short Response)
13. How comfortable are you interacting with students who have autism? (Very comfortable/Somewhat comfortable/Not comfortable/I've never interacted with a student with autism)

Survey for teachers:

Description: You are invited to participate in a research study examining the most effective educational model for students with autism spectrum disorder (ASD.) It is unlikely that you will experience any risks or discomforts beyond what would be experienced in everyday life by participating. There are no specific benefits associated with participating. The data collected in this study are completely anonymous. No personally identifiable information will be collected

and the information you choose to provide in this study cannot be connected back to you. Results from this study may be published, and the anonymous data may be shared with other researchers. If you have any questions or comments about this study, please contact autismeducationresearch@gmail.com.

1. I certify that I am 18 years old or older. By clicking the "Next" button to enter the survey, I indicate my willingness to voluntarily take part in this study.

[NEXT PAGE]

2. School District (Short Response)
3. City/Country (Short Response)
4. How many years have you been teaching? (Short Response)
5. What is the grade level you currently teach? (Short Response)

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6. Have you taught students with autism spectrum disorder (ASD) in your class? (Yes/No/I'm not sure)
7. What methods do you think work best for teaching autistic students? (Short Response)
8. Have you received any specific training regarding educating neurodivergent students? (Yes/No/I'm not sure)
9. How well prepared do you feel you are to teach neurodivergent students? (Scale of 1 - 10)
10. What type of classroom environment do you currently teach in? (General education classroom/Self-contained special education classroom/Inclusive classroom/Other)
11. Do you notice any bias against neurodivergence in your class? If you do, please elaborate: (Short Response)

12. What do you think are the biggest differences between self-contained classes and inclusive environments? (Short Response)
13. What are the benefits of self-contained placements for students with autism? (Short Response)
14. What do you think are the challenges of placing students with autism in a self-contained classroom? (Short Response)
15. What are the benefits of inclusive environments for students with autism? (Short Response)
16. What do you think are the main challenges of including students with autism in a general education classroom? (Short Response)
17. Which educational model do you think is best for students with autism spectrum disorder? (Inclusion/Self-Contained Classes/A mix of both/Other:)
18. What changes would you suggest to improve the education of students with autism in your classroom or school? (Short Response)